



Personal System/2TM
Color Display 8514
Technical Reference

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CAUTION

This product is equipped with a 3-wire power cord and plug for the user's safety. Use this power cord in conjunction with a properly grounded electrical outlet to avoid electrical shock.

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Description

The IBM Personal System/2™ Color Display 8514 is a direct-drive analog display which offers a range of screen display modes, with picture height adjustment and line switching by external control. The display has a power switch, power-on indicator, and controls for brightness and contrast. It comes with a detachable tilt-and-swivel stand.

Models:

- 100-125 Vac 50-60 Hz, Northern Hemisphere
- 200-240 Vac 50 Hz, Northern Hemisphere
- 200-240 Vac 50 Hz, Southern Hemisphere.

Characteristics:

- Vertical addressability of 350, 400, 480, or 768 lines
- Video bandwidth of 45 Mhz
- Self-test with a white screen test pattern
- 75-ohm direct-drive analog video input, 0.0 Vdc - 0.7 Vdc
- 380 mm (16 in.) cathode ray tube
- 0.31 mm dot pitch
- Etched, anti-glare dark faceplate
- Type XE (medium persistence) phosphor
- Horizontal deflection rate of 31.5 kHz \pm 0.5 kHz, or 35.5 kHz in 1024 x 768 mode
- Horizontal blanking time of 5.7 μ s, or 5.35 μ s in 1024 x 768 mode
- Vertical deflection rate of 50 to 70 Hz (50 to 60 Hz for 480 scan line mode), or 43.48 Hz with 2:1 interlace (1024 x 768 mode)
- Vertical blanking time of 0.92 ms, or 690 μ s in 1024 x 768 mode
- Automatic degaussing
- 1.8 m (6 ft.) signal cable with a miniature 15-pin D-shell connector
- 1.8 m (6 ft.) detachable power cable.

Vertical Modes

The display monitors the polarity of the synchronization pulses from the video controller and selects the number of scan lines according to the following figure.

Polarity		Data	Data & Border
HSync	VSyn	Scan Lines	Scan Lines
+	—	350	362
—	+	400	414
—	—	480	496
+	+	1024	768

Figure 1-1. Vertical Modes

Signals

The display receives the video signals from a current source with a 150-ohm termination. The signal input impedance is 75 ohms. The video signals have a range of 0.0 to 0.7 Vdc. The vertical synchronization pulse width is 63.556 μ s, or 112.6 μ s in 1024 x 768 mode. The horizontal synchronization pulse width is 3.813 μ s, or 3.92 μ s in 1024 x 768 mode.

Connector

The following figure shows the pin numbering and signal assignments for the display connector.

Connector	Signal Name
1	Video Red
2	Video Green
3	Video Blue
4	ID Bit 2 Out
5	Self-Test
6	Video Red Return
7	Video Green Return
8	Video Blue Return
9	Key (No Pin)
10	Ground
11	ID Bit 0 Out
12	ID Bit 1 Out
13	Horizontal Sync.
14	Vertical Sync.
15	Reserved

Figure 1-2. Pin Numbering and Signal Assignments

Specifications

Size:	
Width	400 mm (15.7 in.)
Depth	415 mm (16.3 in.)
Height (with stand).....	360 mm (14.2 in.)
Height (without stand)	320 mm (12.6 in.)
Weight (with stand).....	
18.5 kg (41 lb.)	
Power Cable:	
Length	1.8 m (6 ft.)
Signal Cable:	
Length	1.8 m (6 ft.)
Operational Environment:	
Temperature	15°C to 32.2°C (60°F to 90°F)
Humidity	8% to 80%
Altitude.....	0 to 2134 m (7000 ft.)
Heat Output.....	90 watts (307 BTU/hr)

Figure 1-3. Specifications



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